

**ANAESTHESIA IN GREAT BRITAIN AND
IRELAND**

A PHYSICIAN ONLY SERVICE

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SECTION I - INTRODUCTION

Hospital based anaesthesia in Great Britain and Ireland is exclusively a medical specialty. A high quality service with an excellent patient safety record has been developed [1] and the standards of anaesthetic practice are the envy of the world. This model for the provision of anaesthetic services, training and research has been adopted as a template in many countries.

Advances in anaesthesia have enabled medical and surgical practice to expand into areas hitherto deemed impossible. As a consequence, ever increasing demands are being made upon anaesthetic services. The role of the anaesthetist is now firmly established in the care of patients outside the operating department to include intensive and high dependency care, acute and chronic pain relief therapy, obstetric analgesia, resuscitation and accident and emergency medicine. This evolving situation has stretched anaesthetic services to an unacceptable extent, especially where in many hospitals these activities are not reflected in anaesthetists' job plans or contracts

Although the need to expand consultant numbers has eventually been recognised, a serious consultant manpower shortage currently exists within the specialty. This shortfall, which poses a considerable threat to the provision of a safe anaesthetic service within the National Health Service, was foreseen by representatives of the specialty. Regrettably their predictions were slow to be accepted by the Joint Planning Advisory Committee (JPAC), but when finally accepted, a further delay ensued due to the reluctance in provision of the necessary funding for the agreed increase in the senior registrar establishment. An additional factor has been the substantial increase in the numbers of consultant anaesthetists seeking early retirement.

There is clearly a need to analyse the problems and make both short and long term assessments of the ways an anaesthetic service can be provided which will preserve the present high standard of patient safety. In seeking to address a number of issues including trainee doctors' workload, the Department of Health has been exploring the introduction of changes in the roles of health care workers with the aim of using the expertise which is available to its maximum extent. It has been suggested that some of the work currently undertaken by anaesthetists could be carried out by non medical personnel. This document sets out the views of the Council of the Association of Anaesthetists.

SECTION II - HISTORICAL PERSPECTIVE

The development of the specialty of anaesthesia in the United States of America, in Great Britain and Ireland and in Europe has had different emphases.

In the United States, at the Mayo Clinic and the Lakeside Hospital, Cleveland, the introduction of nurse anesthetists at the turn of the century profoundly influenced the development of anesthesia in that country. Between the two World Wars, nurse anesthesia in the United States was consolidated by the development of a large number of training programmes. However, the Mayo Clinic at that same time changed to a physician led specialty with the appointment of Dr John Lundy who was to become one of the most influential anesthesiologists in America.

After the Second World War, the American Society of Anesthesiologists (ASA) strongly promoted physician based anesthesia. Training programmes were set up for anesthesiologists in the teaching centres during the 1950s and 1960s leading to a reduction in the numbers and the influence of nurse anesthetists. Since then the rivalry between the physician anesthesiologists and the nurse anesthetists has continued and intensified. However, the employment of nurse anesthetists appears to have been continued in some centres to allow the anesthesiologists to take part in more high profile research and so influence funding procurement. Furthermore, a two tier service has developed with nurse anesthetists providing the majority of the service in the rural areas and the anesthesiologists in the urban areas. It is interesting that the ambition of nurse anesthetists to achieve authority to practice without physician supervision has become a major issue throughout the United States and a legal bill which would permit such activity is currently being

considered in New York State. Today the use of nurse anesthetists is no longer as financially attractive to hospital administrators [2] and the increasing need for adequate supervision makes their role as independent practitioners less practical.

In the early years, in Great Britain and Ireland, anaesthesia was provided by the resident house doctors. Those who showed proficiency were often encouraged to develop their skills but few became full time specialists, largely for financial reasons. Thereafter, the founding of the Association of Anaesthetists of Great Britain and Ireland in 1932, the introduction of the Diploma in Anaesthesia in 1935, the training of the necessary personnel to provide resuscitation and anaesthesia in the Second World War and the establishment of the Faculties of Anaesthesia in London in 1948 and in Dublin in 1960 all contributed to the firm academic and clinical foundations of the modern specialty of physician based anaesthesia in these islands. As a physician based specialty its impact and status were firmly established. From those beginnings anaesthetic departments have increased from single person departments to organised training schools.

The 1960s structure was, as in all specialties, founded on relatively small numbers of consultants supported by greater numbers of trainee staff. The latter often worked independently from an early stage and were also frequently the source of assistance for the consultants in complex cases. However, manpower planning dictated the development of alternative structures.[3]

In Europe, anaesthesia developed through different pathways. Physicians travelled to either the United Kingdom (UK) or the United States for further experience. Those who travelled to the latter tended to become proponents of nurse anesthesia while those

who came to the UK were more likely to develop a physician based service. The scarcity of medical personnel in Scandinavian countries engendered the use of nurses to oversee the patients after the administration of local anaesthetic blocks by the surgeon. Thus the nurse anaesthetist model in Sweden evolved although it is now run and supervised by anaesthesiologists. In recent times the European Union has stated that anaesthesia should be a physician administered specialty in the countries of the Union.

In many Commonwealth countries a physician based service has developed. In some countries with restricted resources in health care, anaesthesia has been regarded as a 'luxury item' and a physician based service is unattainable. Nurse anaesthetists and anaesthetic officers have been trained to provide a basic service and where the economy improved physician based services have developed.

SECTION III - ADMINISTRATION OF ANAESTHESIA - THE LEGAL POSITION

In the strict legal sense it is not necessary, under British or Irish law, to be medically qualified to dispense medical treatment or, indeed specifically to administer anaesthesia or to perform surgery. It is mandatory, however, that the patient is aware of the status of the person providing medical treatment. That person must not claim to be, or infer that they are, medically qualified if it is not the case. The patient must also give informed consent to that treatment.

Nurses are only able to prescribe a very limited selection of drugs. This does not include anaesthetic or controlled drugs. Registered medical practitioners are the only persons who can prescribe the full range of drugs.

Patients admitted to hospital are the responsibility of the consultant under whom they are admitted or other doctors to whom they are referred. Doctors have a continual 'duty of care'. Any medical intervention can be delegated by a doctor to nurses or other health care staff if it is believed that it is in the best interest of the patient. The onus is on the medical practitioner to ensure that the person to whom the work is delegated is competent to undertake the procedure or therapy involved. The doctor continues to retain the responsibility for the management of the patients' care. [4,5]

The General Medical Council (GMC) has stated that a doctor is forbidden to enable anyone not registered with the GMC to carry out tasks that require the knowledge and skills of a doctor.[4]

The GMC has not issued specific advice about the delegation of the administration of anaesthesia to staff who are not medically

qualified. However the GMC has stated that, in cardiac surgery, a non medically qualified assistant should work only under the close supervision of the consultant responsible for the care of the patient and should not perform any surgical procedure in the absence of the consultant. The Association has reason to believe that similar restrictions would apply to any task delegated by an anaesthetist to a non medically qualified assistant.

In a particular case considered by the GMC there was a ruling that if a known incompetent person looks after a patient who subsequently comes to any harm, the delegating anaesthetist may be charged with gross professional misconduct. In addition, civil actions may be brought and in recent times two anaesthetists have been convicted of manslaughter.[6,7]

SECTION IV - MANPOWER

The present severe consultant manpower shortage in anaesthesia was predicted as early as 1991. Regrettably there was a reluctance and tardiness to institute the necessary preventative measures and this has accentuated the current manpower deficit. The causes of the deficit are multifactorial and include increased demand due to increases in workload, diversification of need, the effects of the restriction of junior doctors' hours of work and the worrying series of early consultant retirements. The inability of JPAC to respond to the changes as forecast and the deferment of the funding procurement for the eventual agreed increase in senior registrars, has proved critical. This delay of the solution to the problem has made the manpower difficulties unnecessarily prolonged. The anaesthetic service of Great Britain and Ireland, and especially that in England and Wales, has depended for too long on a large number of trainee staff providing significant elements of the routine service provision, a factor often highlighted in hospital visits for training recognition by the Royal College of Anaesthetists (RCA). This hidden deficit has been further exposed by the introduction of regulations for trainee doctors' hours of work.

Medical managers and trainers are currently involved with the Postgraduate Deans in a major re-organisation of the methods by which trainee anaesthetists will be taught in the future. The United Training Grade will eventually reduce the availability of trainees and the requirements for Continuing Medical Education could reduce consultant presence in the hospital for the service delivery. These potential changes have funding implications and trusts are studying strategies to reduce service pressures and complete contracts. This could affect the ability of anaesthetists to take study and annual leave.

It should be emphasised that there is a sufficient number of trainees coming into the specialty of anaesthesia. The manpower shortage should be alleviated significantly in the next two to three years with an increased number of trainees attaining the Certificate of Completion of Specialist Training (CCST). It is confidently predicted by the RCA that if consultant expansion does not exceed 5% per annum over the same period then the present consultant shortage, while not totally resolved, should be considerably alleviated. However many anaesthetists believe that these manpower projections may be based on inaccurate data as it appears that many hospital trusts are at present desisting from advertising their vacancies until more senior registrars complete their training. If these concerns are valid then the shortage may be more prolonged.

The apparent insensitivity of the mechanisms for manpower planning and provision has been starkly highlighted by this crisis in anaesthesia. A system must be found which can respond at the appropriate time to prevent such a needless emergency from recurring. The system requires flexibility; the information must be credible and upgraded at frequent intervals.

SECTION V - COSTINGS

It is difficult to compare costs, not only from region to region in one country, but even more so from country to country. It is virtually impossible to have strictly comparable scenarios to study.

The number of consultants providing anaesthesia in Great Britain and Ireland is less than in other European countries. For example, there are 115 specialist physician anaesthetists in Sweden per million of the population compared with 60 per million in Great Britain and Ireland. In addition, there are another 187 nurse anaesthetists per million of the population in Sweden as well as a larger number of trainees.

A recent cost analysis of physician anaesthesiology and independent nurse anesthesia in New York showed that case for case, the nurse is the more expensive option because of the need for physician interpretation of preoperative fitness even in ASA grade 1 cases. As the complexity of the case increases and the fitness of the patient decreases, the costs of nurse anesthesia escalate because of the need for other physician interventions.

In the majority of European countries which employ nurse anaesthetists as part of the anaesthesia care team under the supervision of a physician anaesthetist, the average salary of a nurse is about half that of a physician. Simplistically this has been seen by some as a potential source of saving for UK trusts. This argument is flawed in several respects. The hours of work of each nurse are strictly limited. Account must also be taken of the necessary infrastructure which would be needed for nurse anaesthetists. At the present time, there is no such provision in Great Britain and Ireland. There is no curriculum for what would have to be a two to three year

training course, no system of tutoring, no examination and no facilities for in-theatre training. All this would need to be designed, financed and monitored.

The main reason that any cost savings produced by a nurse anaesthesia scheme are more apparent than real lies in the difference in the efficiency between the nurse and the physician. A nurse anaesthetist must wait for a physician to be present at the induction and emergence of each case. This introduces inevitable delays in large operating suites where the physician anaesthetist may be supervising more than one operating theatre.

Malpractice insurance must also be considered. Physician anaesthetists, even with their excellent safety record, have been perceived until recently as a high risk group as judged by their subscription to medical indemnity organisations. Costs of cover for alternative personnel should not be underestimated.

Finally, on another front it is unclear who could provide the teaching in anaesthesia which the introduction of a nurse anaesthesia service would require. The majority of physician anaesthetists is already fully committed to the teaching and assessment of trainee doctors and they are unlikely to abandon this work to train nurses without needing extra cover for their service work. The actual practical opportunities are already stretched in the teaching of trainee anaesthetists, medical students and paramedics and this work could be prejudiced by the introduction of nurse trainees.

SECTION VI - OPERATING THEATRE MANAGEMENT

Introduction

Work in operating theatres is a concerted team effort with the total strength, efficiency and safety dependent on each individual component. The application of the available training and expertise to its maximum extent is essential to receive a good return for the extensive investment in personnel and equipment which is required. It is incumbent on all those involved in the management of operating departments to ensure that utilisation is optimally efficient in line with good practice.[8,9]

Quality

The Association believes that the physician based anaesthetic service in these islands has resulted in a high standard of clinical practice, teaching, training, research and patient safety. Studies of mortality from anaesthesia performed in countries with non physician anaesthesia show interesting differences from our own national reports.[1,10,11] Although nurse practitioners have developed useful roles in a wide variety of locations in the health service, particularly in general practice, the Association believes that the skills required to provide safe anaesthesia cannot be delegated to such personnel because of rapidly changing and unpredictable surgical requirements. It is unclear how many nurses would wish to take on these roles. A recent nursing editorial stated that “There is little justification for extending nurses’ roles unless there are real gains in the quality of patient care or advancement of the practice and understanding of nursing”. [12]

Assistance

In 1988 the Association detailed the need for skilled and exclusive assistance for the anaesthetist in the provision of a safe anaesthetic service.[13] At the time it was noted that the means by which help was provided for anaesthetists was failing nationally to achieve consistently acceptable numbers and quality of staff. The provision of such skilled assistance for the physician anaesthetist is still a contentious issue in Great Britain and Ireland and there is a great discrepancy between anaesthetic departments.

Assistance for anaesthetists has evolved in two ways, one through the use of anaesthetic nurse assistants and the other through the use of operating department assistants. Both these groups are now generically linked with other nursing staff in theatres as Operating Department Personnel. These specially trained personnel are invaluable to the busy anaesthetist. They are able to prepare the monitoring apparatus and the anaesthetic machine between cases, set up intravenous infusions and prepare equipment for the control of the airway. They are also allowed to prepare some drugs under direct supervision by the anaesthetist. All anaesthetists recognise the value of this type of assistance when it is present and acknowledge the difference such help makes to the stresses of the day. It allows the anaesthetist to concentrate on the areas of practice requiring diagnostic skills.

The Association has stated [14] that every anaesthetised patient should have care provided by an appropriately trained anaesthetist who stays with that patient at all times. This opinion has not

changed and is fundamental to modern anaesthetic practice. The lack of specialist assistance on a regular basis will increase stress to an intolerable level. With the trend towards a consultant run service the need for this type of assistance is all the more important. Surgical consultants are often unaware of these pressures on anaesthetic staff as they themselves usually have either trainee staff or a trained theatre nurse to assist them. It would be inconceivable for them to work under the conditions in which many consultant anaesthetists find themselves.

However, the role of the anaesthetic assistant needs to be re-assessed and re-examined. There are many routine tasks performed by anaesthetists which could equally well be done by other suitably trained staff, enabling the anaesthetists to use their skills more effectively.

There are models of pre-operative assessment by nurse practitioners which are proving effective in day surgery.[15,16,17] While it is important to realise that these assessments are replacing the 'routine' pre-operative clerking formerly performed by trainee surgeons and physicians they may need to be explored for suitable application in other areas. Anaesthetists still see and assess their day patients pre-operatively and they will need to continue to perform this vital task for all their patients.

Organisation

Audit of theatre work has revealed that there is considerable variation in the time required to complete the same operative procedure, that considerable time is lost in transporting patients to the operating theatre and that other delays occur when looking for patients' notes and the results of necessary investigations. This

inefficiency slows operating lists and there is much room for improvement. The Association of Anaesthetists recommends that, in operating theatre departments, a manager should be more involved in the scheduling of operations. The model used in many day surgery units where the department of anaesthesia schedules and coordinates the surgical lists, is one which should be explored.

Contract

Recognition of the duties of anaesthetists outside the operating theatre is long overdue. At a clinical level these include acute and non acute pain relief, obstetric anaesthesia, intensive care, high dependency care and outpatient clinics in association with day surgery. In most hospitals, the resuscitation team is led by an anaesthetist. There are also responsibilities for audit, teaching and training and, more recently, the impact of the reduction of trainee doctors' hours.

The recommendations contained in '*Achieving a Balance*' and the regulations covering trainee doctors' hours of work [18,19,20] have changed the working pattern of many consultant anaesthetists. Assistance of trainee staff is much less likely to be routinely available and consultants are increasingly working single-handed. The pressure to complete surgical contracts, where there are no trainee staff or locums available to provide cover for consultants on legitimate leave, has resulted in some consultant anaesthetists feeling obliged to take annual or study leave at inconvenient times. Many workload plans largely ignore legitimate consultant absences. The present manpower shortage has been accentuated by an unprecedented trend towards early retirement. These factors may not be unconnected.

Guaranteed cover must be provided for annual and study leave. The need is especially acute and apparent where the consultants are involved in first line emergency theatre work. The cover must be built into the department's overall work strategy to prevent overstraining service provisions.

SECTION VII - CONCLUSIONS

The Association of Anaesthetists believes that the introduction of non physician anaesthetists, including nurse anaesthetists, would not solve any of the present problems.

A whole new series of difficulties would be created. These would include potential changes in patient safety levels and postoperative morbidity, training considerations, the examination and registration of competence to practise, increased costs and potential medico-legal problems.

Such changes at this time would be counterproductive.

SECTION VIII - RECOMMENDATIONS

1. Optimum care of patients is a fundamental tenet of NHS practice. It can often best be achieved by adopting a 'team approach' which efficiently utilises a blend of the skills of doctors, nurses and other health care professionals. This needs to be further explored.
2. Anaesthesia in Great Britain and Ireland should continue as a physician administered specialty.
3. The provision of skilled assistance for the anaesthetist should be re-assessed. This assistance must be of high standard and dedicated to anaesthesia.
4. The efficiency of operating theatre scheduling must be improved. The Anaesthetic Directorate is fundamental in the efficient running of the operating theatre.
5. Consultant staffing levels necessary to take account of '*Achieving a Balance*', junior doctors' hours legislation and the structured training programmes need to be attained.
6. Regular revision of manpower requirements is necessary to avoid future crises in manpower provision in anaesthesia.

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